

REMARKS

The present amendment is being submitted simultaneously with the filing of the present application. It is noted that in the Office Action dated August 10, 2001 in the parent application, claims 5 and 6 were rejected under 35 USC 103(a) over the patent to Daly, et al.

Claims 7 and 8 were rejected under 35 USC 103(a) over Daly, et al. in view of the patent to Lex.

In view of these rejections of the claims applicants have amended claims 5 and 7.

It is respectfully submitted that the claims presently on file differ essentially and in an unobvious, highly advantageous manner from the methods and constructions disclosed in the references.

Turning now to the references, and particularly to the patent to Daly, et al., it can be seen that this patent discloses a method for producing aluminum can sheet having low earing characteristics. Although Daly, et al. have an objective of impeding and uniformly controlling recrystallization, they give no suggestion that this can or should be done in a process in which a temperature range of 260°- 280°C is used as an upper limit in the hot roll passes, as in the presently claimed invention. In fact, Daly, et al. teach away from this upper limit in that in Column 3, lines 34-35 a temperature of about 327°C is indicated as being the preferred hot rolling temperature. Thus, a low upper limit temperature of the hot rolling passes as in the presently claimed invention is in no way suggested by Daly, et al. One skilled in the art would find no motivation from the teachings of Daly, et al. for limiting the temperature of the hot roll passes as taught in the presently claimed invention in order to suppress recrystallization. Daly, et al. define a specific overall process

which they utilize for reducing or controlling recrystallization and there is nothing in their teaching which would suggest rolling in the temperature range of 260°-280°C as in the presently claimed invention. Simply because there is some overlap in the range of the presently claimed invention and that taught by Daly, et al. does not render the overall process presently claimed to be obvious. Daly, et al. recite a specific combination of steps which should be carried out to produce their aluminum can sheet and applicants respectfully submit that there is no motivation for those skilled in the art to modify these steps to arrive at the specifically recited steps of the presently claimed invention which have a specified upper limit of the hot rolling temperature together with the remaining steps which include feeding the finished coils to a furnace for recrystallization wherein this step of recrystallization is a final step in the process. In order for Daly, et al. to produce their aluminum sheet a final cold rolling step is required. There is nothing in the teachings of this reference which suggests or would motivate one skilled in the art to delete this cold rolling step.

In view of these considerations it is respectfully submitted that the patent to Daly, et al. does not teach or suggest the process as recited in the claims presently on file. Thus it is respectfully submitted that the rejection of claims 5 and 6 under 35 USC 103(a) over the above-discussed reference is overcome and should be withdrawn.


The patent to Lex discloses a dynamo or electro band. The Examiner combined the teachings of this reference with Daly, et al. in determining that claims 7 and 8 would be unpatentable over such a combination. Applicants respectfully submit that the combination of references does not teach a plant for producing hot rolled aluminum strip for can making which has heat treating means for recrystallizing the finished coiled strip as a final production stage, as in the presently claimed invention, and means for rolling in a temperature range of 260° to a maximum of about 280°C.

In view of these considerations it is respectfully submitted that the rejection of claims 7 and 8 under 35 USC 103(a) over a combination of the above-discussed references is overcome and should be withdrawn.

Reconsideration and allowance of the present application are respectfully requested.

Any additional fees or charges required at this time in connection with the application may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,
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In the Claims:

5. (Amended) A process for producing hot-rolled aluminum strip for can making, comprising the steps of:

feeding a feed material into a reversing roughing stage to form a strip;
finish rolling the strip from a coil to a coil on a reversing roll stand immediately after the roughing stage in a number of hot rolling passes;
suppressing recrystallization of the rolled strip by controlled temperature management of the strip so that last of the hot rolling passes are carried out without recrystallization on the reversing roll stand from coil to coil in a non-critical temperature range of 260°C to a maximum of about 280°C ;
coiling the strip into finished coils; and
feeding each finished coil to a continuous pusher type furnace for heat treating the finished coils to a recrystallization temperature 315°C to 320°C, as a final step.

7. (Amended) A plant for carrying out a process for producing hot-rolled aluminum strip for can making comprising:

a reversing roughing stage for aluminum feed material which is used hot, the roughing stage being capable of producing a rough strip;
means for finish rolling the rough strip in a number of hot rolling passes so that last of the hot rolling passes occur without recrystallization in a non-critical temperature range

of 260°C to a maximum of about 280°C , the finish rolling means including a four-high reversing roll stand and a respective winding device arranged on each side of the roll stand for coiling the strip;

means for heat treating the finish coiled strip to a recrystallization temperature of 315°C to 320°C as a final production stage, the heat treating means including a pusher-type coil furnace and a pallet transport system via which a number of contacting pallets, each holding a coil, is transported through the pusher-type coil furnace by displacement of the pallets; and

means for transporting the coiled strip to the heat treating means, one of winding devices corresponding with the transporting means.